

ABSTRACT

A method for forming colloidal particles by boiling a solution containing a metal salt and a reducing agent; and a method for preparing a colloidal solution wherein the concentration of the metal salt in the solution is  $1 \times 10^{-4}$  mol/L or more and less than  $4 \times 10^{-4}$  mol/L; the equivalent concentration of the reducing agent is four times or more and 20 times or less the equivalent concentration of the metal salt; and the reaction time is 60 minutes or more and 300 minutes or less. A carrier wherein colloidal particles are fixed on the surface of a substrate by applying the colloidal solution prepared by the above-described method.

Methods for manufacturing a fuel cell cathode, a fuel cell anode, and a low temperature oxidation catalyst, wherein a colloidal solution prepared in the state wherein a solution containing a metal salt and a reducing agent is boiled to remove dissolved oxygen is applied to a substrate and colloidal particles are fixed on the substrate.